

What is claimed is:

1 1. A method of deciding whether to perform link adaptation for
2 communication from a first communication device to a second
3 communication device, the second communication device examining a
4 signal received from the first communication device and providing
5 a first indication of the quality of the signal as received by
6 the second communication device, the method comprising the steps
7 of:

8 a) recording at least one first indication of the quality of the
9 signal as received by the second communication device;

10 b) providing a second indication of the quality of the signal
11 based on the at least one first indication of the quality of the
12 signal; and

13 c) deciding to perform link adaptation based on the second
14 indication of the quality of the signal.

1 2. The method of claim 1, wherein the first indication of the
2 quality of the signal as received by the second communication
3 device is either an SIR estimate, or an ACK/NACK signal, or an
4 FER or BLER or corresponding statistic collected over a
5 predetermined time period.

1 3. The method of claim 1, wherein the second indication of the
2 quality of the signal as received by the second communication
3 device is either an SIR target value, a changed SIR target value,
4 an ACK/NACK signal, or a signal derived from a series of
5 consecutive ACK/NACK signals.

1 4. The method of claim 3, wherein the decision to perform link
2 adaptation is based on whether the SIR target is to be changed to

3 a value that is within some predetermined margin of a
4 predetermined maximum or minimum SIR target.

1 5. The method of claim 3, wherein a succession of SIR target
2 change commands are recorded, and further wherein the decision to
3 perform link adaptation is based on whether a predetermined
4 number of consecutive SIR target change commands are all either
5 to increase the SIR target or to decrease the SIR target.

1 6. The method of claim 3, wherein a succession of SIR target
2 change commands are recorded, and further wherein the decision to
3 perform link adaptation is based on whether a predetermined
4 fraction of a predetermined number the SIR target change commands
5 are either to increase the SIR target or to decrease the SIR
6 target.

1 7. The method of claim 1, wherein the first communication device
2 is selected from the group consisting of a mobile station and a
3 base station and the second communication device is the other
4 device in the group consisting of a mobile station and a base
5 station.

1 8. The method of claim 1, wherein the first communication device
2 or the second communication device perform one or more of the
3 steps of recording at least one first indication of the quality
4 of the signal, providing a second indication of the quality of
5 the signal, and deciding to perform link adaptation.

1 9. The method of claim 1, wherein an RNC performs one or more of
2 the steps of recording at least one first indication of the
3 quality of the signal, providing a second indication of the
4 quality of the signal, and deciding to perform link adaptation.

1 10. The method of claim 1, wherein the signal for which the
2 indication of the quality of the signal as received by the second
3 communication device is used as a basis for a link adaptation
4 decision is different from, but associated with, the signal for
5 which the link adaptation decision is made.

1 11. An apparatus for deciding whether to perform link adaptation
2 for communication from a first communication device to a second
3 communication device, the second communication device examining a
4 signal received from the first communication device and providing
5 a first indication of the quality of the signal as received by
6 the second communication device, the apparatus comprising:

7 a) means for recording at least one first indication of the
8 quality of the signal as received by the second communication
9 device;

10 b) means for providing a second indication of the quality of the
11 signal based on the at least one first indication of the quality
12 of the signal; and

13 c) means for deciding to perform link adaptation based on the
14 second indication of the quality of the signal.

1 12. The apparatus of claim 11, wherein the first indication of
2 the quality of the signal as received by the second communication
3 device is either an SIR estimate, or an ACK/NACK signal, or an
4 FER or BLER or corresponding statistic collected over a
5 predetermined time period.

1 13. The apparatus of claim 11, wherein the second indication of
2 the quality of the signal as received by the second communication
3 device is either an SIR target value, a changed SIR target value,

an ACK/NACK signal, or a signal derived from a series of consecutive ACK/NACK signals.

14. The apparatus of claim 13, wherein the decision to perform link adaptation is based on whether the SIR target is to be changed to a value that is within some predetermined margin of a predetermined maximum or minimum SIR target.

15. The apparatus of claim 13, wherein a succession of SIR target change commands are recorded, and further wherein the decision to perform link adaptation is based on whether a predetermined number of consecutive SIR target change commands are all either to increase the SIR target or to decrease the SIR target.

16. The apparatus of claim 13, wherein a succession of SIR target change commands are recorded, and further wherein the decision to perform link adaptation is based on whether a predetermined fraction of a predetermined number the SIR target change commands are either to increase the SIR target or to decrease the SIR target.

17. The apparatus of claim 11, wherein the first communication device is selected from the group consisting of a mobile station and a base station and the second communication device is the other device in the group consisting of a mobile station and a base station.

18. The apparatus of claim 11, wherein the first communication device or the second communication device includes one or more of the means for recording at least one first indication of the quality of the signal, means for providing a second indication of

the quality of the signal, and means for deciding to perform link adaptation.

19. The apparatus of claim 11, wherein an RNC includes one or more of the means for recording at least one first indication of the quality of the signal, means for providing a second indication of the quality of the signal, and means for deciding to perform link adaptation.

20. The method of claim 11, wherein the signal for which the indication of the quality of the signal as received by the second communication device is used as a basis for a link adaptation decision is different from, but associated with, the signal for which the link adaptation decision is made.